

RECLAMATION

Managing Water in the West

Improving Water Management:

Annual Report for the
Mid-Pacific Region
Water Conservation Team



U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

2009



Table of Contents

Introduction 1

Financial Assistance 5

Water Conservation Plans13

Public Outreach19

Regional Director’s Award23

Regional Area Offices25

Mid-Pacific Regional Staff31



Reclamation Mission Statement

“To manage, develop, and protect water related resources in an environmentally and economically sound manner in the interest of the American public.”



Introduction



CONSERVATION: protection from loss, protection from waste, management of natural resources.

WATER CONSERVATION: Cost effective and environmentally sound measures, technologies, programs, and incentives that result in improved, efficient management of water resources for beneficial uses, preventing waste or accomplishing additional benefits with the same amount of water.

In 1982 the Reclamation Reform Act (RRA) established a need for specialized water conservation personnel for water conservation planning purposes. In 1992, the Central Valley Project Improvement Act (CVPIA) added new environmental purposes for conservation and required the Mid-Pacific Region (MP Region) of Reclamation to establish a Water Conservation Office with a focus on relationships with federal water supplies.

In 1996 the Water Conservation Field Service Program (WCFSP) was established, leading to the multi-faceted Water Conservation Program we have today. Since 1996 Reclamation’s Water Conservation Program has been the impetus for many conservation improvements accomplished by water users.

The goal of Reclamation’s Water Conservation Program is to foster improvements in the efficiency of use and management of water supplies provided by Reclamation. The Mission of the MP Region’s Water Conservation Office is:

- Optimize the beneficial use of water resources including ground water, recycled/reused water, and surface water;
- Educate customers about the opportunities for and the benefits of water conservation in the context of watershed management;
- Collaborate with other agencies and stakeholders to be leaders in conservation.

With much of the Western United States historically experiencing moderate to extreme drought conditions, achieving Reclamation’s mission “*manage, develop, and protect water and related resources in an environmentally and economic sound manner in the interest of the American public*” is challenging due to the limited water supply to meet environmental, agricultural, and urban needs. In 2009, Reclamation had its lowest allocation in history with only a 10% water allocation to some agricultural customers, and was close to delivering only the amount of water necessary to meet human health and safety needs for the urban sector. Californians are experiencing the pain of drought through lost jobs and severe economic hardships in the Central Valley which has historically been one of the richest farming areas in the United States.

Introduction

In California, water supply is at the forefront of everyone’s mind, including farmers, recreationists, fish and wildlife managers, and lawmakers alike. State and Federal governments are taking critical steps to help ease water supply constraints in the face of shortages, population growth, and competition. Historically, competing stakeholders have debated the issue of storage versus demand management and water conservation. Through recent legislative acts, it has become clear that water conservation and water use efficiency is recognized as a vital tool in helping to mitigate the immediate water challenges in the West.

Legislative Authority

The Reclamation Reform Act of 1982 and the Central Valley Project Improvement Act provide authority for working with districts and others to improve water management in the MP Region.

Reclamation Reform Act

RRA establishes the conditions under which entities can receive and use irrigation water from Reclamation projects. RRA requires Reclamation to encourage efficient use of water from federal projects. RRA, Section 210(b), created a formal requirement for most irrigation districts and municipal water contractors receiving Federal water to prepare and update water conservation plans every five years.

Central Valley Project Improvement Act

CVPIA was signed into law in 1992. Section 3405 (e) of CVPIA included specific water conservation requirements. This law requires Reclamation to:

- Establish a water conservation office
- Develop and revise criteria every 3 years to evaluate water conservation plans
- Evaluate water conservation plans according to the criteria

Federal water contractors in the Central Valley Project are contractually required to complete a water management plan conforming to the Criteria established by the Water Conservation Office. Currently over 100 contractors have water management plans in place and the Water Conservation Office tracks the implementation of these plans through annual updates.

Objectives and Action Plan of the Water Conservation Program

In order to achieve our mission, the MP Region Water Conservation Team has the following objectives with specified actions to meet those objectives. They are categorized by objective and are summarized as follows:

Objective #1 - Advance Water Management Planning:

- Implement CVPIA
- Support California’s efforts to promote better water management
- Create opportunities for improved water management
- Integrate the water conservation program with other programs



Introduction

Objective #2 - Promote increased awareness of water conservation through outreach:

- Provide educational opportunities to water contractors
- Support youth education efforts
- Promote water conservation through public outreach programs

Objective #3 - Foster innovation in water management through grant programs:

- Facilitate the WaterSMART Program
- Administer the Water Conservation Field Services Program
- Promote other agency’s complementary programs

Objective #4 - Support research and technology transfer/distribution efforts in water conservation:

- Provide support for technical training and technology transfer
- Promote training opportunities provided by the Denver Technical Service Center
- Identify and support needed research efforts
- Partner with educational institutions to advance water conservation

Objective #5 - Develop alliances with key agencies for a more effective program:

- Network with partner agencies and other entities to coordinate efforts, including the States of California, Nevada and Oregon and sister agencies
- Participate in appropriate Bay-Delta activities

Financial Assistance Programs

Reclamation has the responsibility, in partnership with water users, States, and other interested parties, to help improve water management and facilitate the efficient use of water in the Western United States. The MP Region administers and participates in several water conservation grant programs designed to establish conservation partnerships: the Water Conservation Field Services Program (WCFSP), CALFED Water Use Efficiency (WUE) Grant Program, Challenge Grants, and Technical Transfer Grants. Through these programs, Reclamation provides funding to irrigation districts, urban water agencies, or universities for water management improvements and education/training that accelerate the implementation of conservation activities. These grants provide tools to water users to better manage their water, and thus conserve by diverting less, or using the water more efficiently within their service area. Each grant program has a unique focus (Table 1) while contributing to the overarching goal of water conservation.

Table 1: Program Attributes

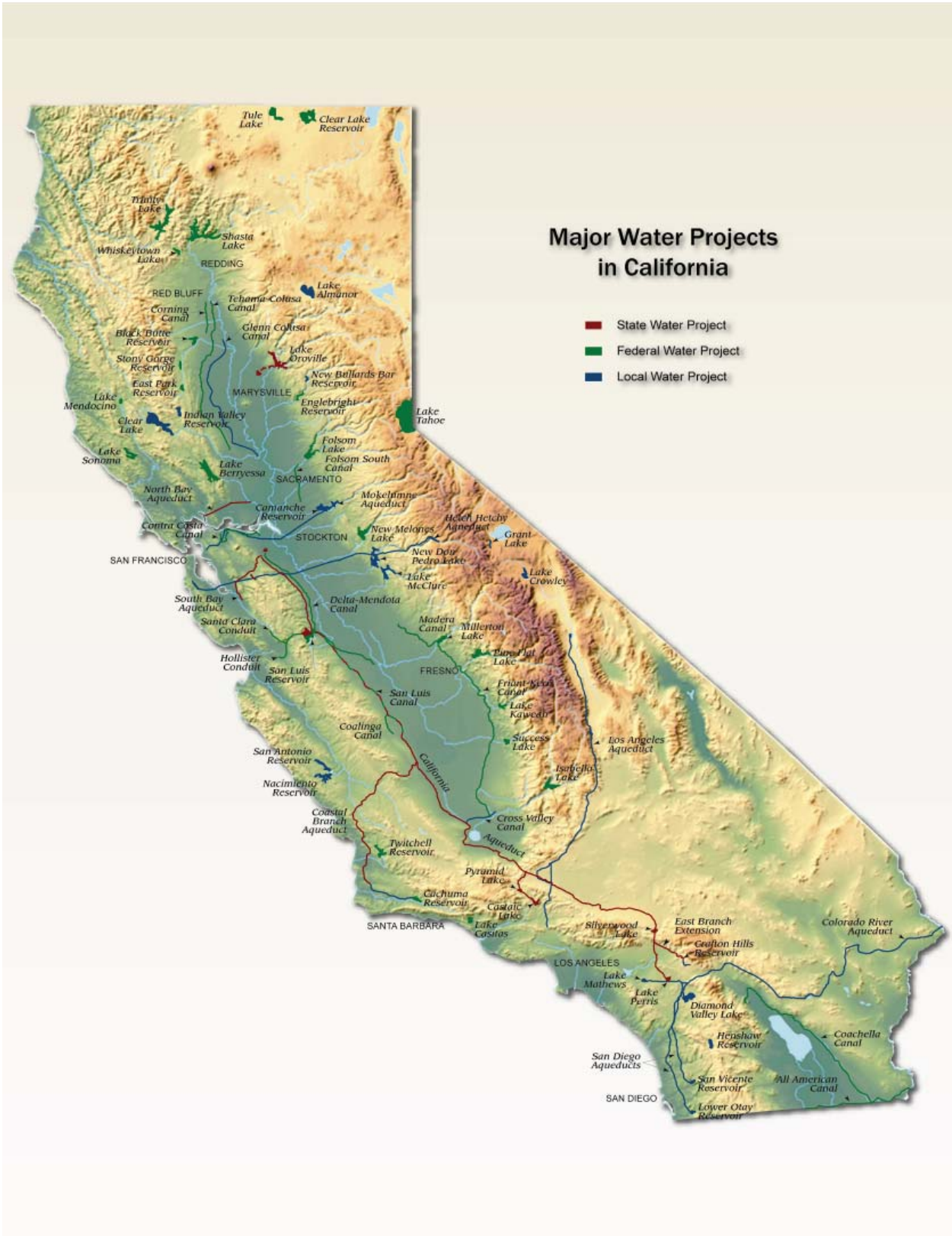
Program	Program Attributes
WCFSP	Locally administered program, targeting Reclamation customers, designed to provide technical and financial assistance for water management planning, implementation of best management practices, demonstration projects, and conservation education.
CALFED	Designed to provide benefits to the Bay-Delta Estuary through water use efficiency activities.
Challenge Grants	Competed Reclamation-wide and focus on quantifiable water savings, water banks, water markets, and other efficiency measures to address the challenges posed by drought, climate change, energy demands, expanding populations, and increased environmental needs.
Technical Transfer Grants	Unique to MP Region, provides state of the art water conservation technology, technical assistance and expert modernization advice to agricultural water suppliers which receive water from the Central Valley Project.

Investing in new water conservation technology is one of the Secretary of Interior’s top priorities, which is easily addressed through the water conservation grant programs that Reclamation currently offers. Water use efficiency and conservation are key elements in achieving Reclamation’s mission and are critical in California to meet rising demands. Over the years, grant programs have served as a strong catalyst for the implementation of water conservation measures, and thus have significantly contributed to the improvement of water supply reliability, water quality, and in-stream flows.

Public Law 111-11

Reclamation’s commitment to conservation through grants was solidified with the passage of the Omnibus Public Land Management Act of 2009, Public Law 111-11. Whereas Reclamation struggled in the past for authority to award financial assistance for water conservation projects/ programs, Public Law 111-11, Section 9504, provides the Secretary with long-term authority for entering into financial assistance agreements for water conservation.

Public Law 111-11 specifies that water conservation grants shall not exceed 50 percent of the project’s cost and cannot exceed \$5,000,000. However, federal funding maximums vary depending on the program and the region that is administering the program. Funding amounts/maximums are further discussed under each program title.



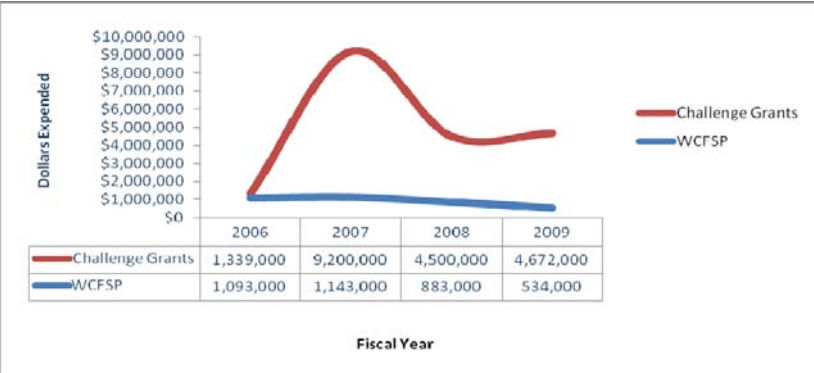
2009 Conservation Funding and Benefits

In 2009, WCFSP, CALFED WUE Grant program, and Challenge Grant program’s significantly contributed to West-wide (17 western states) water conservation (Table 2). Although all programs play a significant role in Reclamation’s efforts to promote better water management, recent budgetary trends support an all-West-wide encompassing conservation approach (Figure 1). In recent years, Reclamation has reduced the dollars spent on the WCFSP, Reclamation’s deep-rooted, locally administered conservation program, while other programs continue to grow. This approach has several positive attributes such as the ability to award more large-scale projects and including more non-federal water purveyors, but it also poses challenges in that water purveyors are now competing amongst other water purveyors from the 17 western states. The MP Region has recently benefitted from this.

Table 2: 2009 Water Conservation Expenditures and Benefits

Grant Program	# Projects Funded	Federal \$ Invested	\$ of Local Cost Share	Acre-feet Conserved or Better Managed
Challenge Grants*	23	4,672,493	14,478,152	74,228
WCFSP	16	533,875	1,332,802	33,996
CALFED	16	5,584,131	7,763,907	22,524
Total	55	10,790,499	23,574,861	130,748

Figure 1. Historical dollars spent on conservation projects per program from 2006-2007. The availability of funds is shifting from locally administered programs (WCFSP) to Reclamation-wide programs (Challenge Grants).



*This number represents all Challenge Grants Reclamation-wide, not just within the MP Region. This number does not represent ARRA Challenge Grants (see Table 7).

Water Conservation Field Services Program

WCFSP was historically Reclamation’s primary source of water conservation grants. The WCFSP is a locally administered and competed program, designed to provide technical and financial assistance for water management planning, implementation of best management practices, demonstration projects, and conservation education.

WCFSP commenced in 1997, to aid in RRA compliance. RRA, Section 210, stated that Reclamation was to “encourage the full consideration and incorporation of prudent and responsible water conservation measures in the operations of non-federal recipients of irrigation water from Federal Reclamation projects...” As a result, all agricultural, municipal, and industrial water contractors that entered into contracts pursuant to Federal Reclamation law or the Water Supply Act of 1958, were required to provide Water Management Plans (Plans). The completion of these Plans became



a provision in the water supply contracts and each Plan had to include the following:

- Definite goals
- Water conservation measures
- Time schedule for meeting objectives

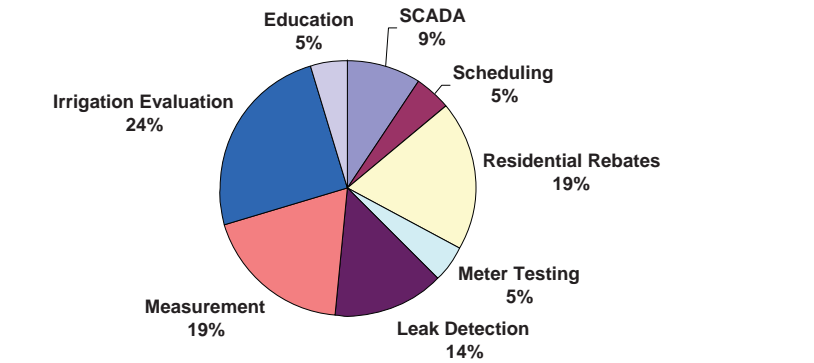


Figure 2. Percent of money awarded for 2009 WCFSP Grants. 16 grants totaling \$534,000 were awarded to MP Region water purveyors. Federal awards ranged from \$25,000 to \$84,000. The projects’ potential acre feet of water conserved or better managed is 34,000.

Approximately 10 years after the passage of RRA, Reclamation was criticized for its contractors’ lack of water conservation efforts, and the Natural Resources Defense Council and other environmental groups filed suit against Reclamation, stating that Reclamation was not effectively implementing the water conservation measures of RRA. In 1996, Reclamation entered into a settlement agreement to fulfill its legal responsibility under Section 210 of RRA, and as a result, the Commissioner of Reclamation issued a new Reclamation-wide policy on water conservation planning. To ensure efficient use of federal water, Reclamation was to work directly with individual contractors to develop water conservation plans and provide technical and/or financial assistance in the implementation of water conservation programs/projects and new technology.

A key element in the settlement agreement was the initiation of the WCFSP, designed to encourage and support water conservation as a non-regulatory incentive based program for financial and technical assistance. The goals of the WCFSP were outlined as follows:

1. Ensure development and implementation of high quality water conservation plans.
2. Demonstrate innovative technologies that conserve water.
3. Implement effective water conservation measures throughout Reclamation States and advance improved water management on a regional and statewide basis.

Since the program’s inception, the MP Region has awarded over 400 WCFSP grants for projects such as canal lining and piping, irrigation scheduling, system delivery, system modernization, residential rebate programs, education, and measurement. Including water supplier contributions, the WCFSP has resulted in over \$25.6 million invested in water conservation projects in the MP Region.

Table 3: Water Conservation Field Services Program				
Beneficiary	ac/ft conserved or better managed per year	Federal Funds	Cost Share Funds	Total Project Cost
Fresno Irrigation District	2,700	\$ 25,000	\$ 162,000	\$ 187,000
Natomas Central MWC	1,600	\$ 25,000	\$ 36,000	\$ 61,000
James Irrigation District	1,345	\$ 25,000	\$ 32,300	\$ 57,300
San Juan Water District	19	\$ 25,000	\$ 32,224	\$ 57,224
Solano County Water Agency	10	\$ 25,000	\$ 89,861	\$ 114,861
San Benito Co. Water District	548	\$ 25,000	\$ 104,700	\$ 129,700
East Bay MUD	340	\$ 50,000	\$ 50,000	\$ 100,000
Reclamation District 108	5,500	\$ 25,000	\$ 31,400	\$ 56,400
City of Roseville	21	\$ 25,000	\$ 36,194	\$ 61,194
So San Joaquin MUD	3,609	\$ 25,000	\$ 27,000	\$ 52,000
North West Kern RCD	15,000	\$ 50,000	\$ 100,000	\$ 150,000
Fair Oaks Water District	766	\$ 25,000	\$ 35,000	\$ 60,000
Placer County Water Agency	21	\$ 24,875	\$ 24,875	\$ 49,750
Citrus Heights Water District	17	\$ 25,000	\$ 437,249	\$ 462,249
Madera Irrigation District	2,500	\$ 50,000	\$ 50,000	\$ 100,000
Cal Poly Corporation		\$ 84,000	\$ 84,000	\$ 168,000
Subtotal	33,996	\$ 533,875	\$ 1,332,803	\$ 1,866,678

The CALFED Water Use Efficiency Grant Program

In addition to participating in the WCFSP, the MP Region also administers the CALFED WUE Grant Program funded as part of annual Bay-Delta appropriations. CALFED is a combined State and Federal program focused on the restoration of the Delta’s fragile ecosystem while improving water supply reliability for urban and agricultural water users. The goal of the WUE Grant Program is to accelerate the implementation of cost-effective actions that provide state-wide benefits through water conservation. Water use efficiency from both Federal and non-federal purveyors linked to the Bay-Delta water supply can result in significant benefits to water quality, water supply reliability, and in stream flows.

In 2009, the MP Region awarded 16 grants for hardware retrofits, SCADA, leak detection, rebates, ET controllers, and distribution system improvements (Figure 3).

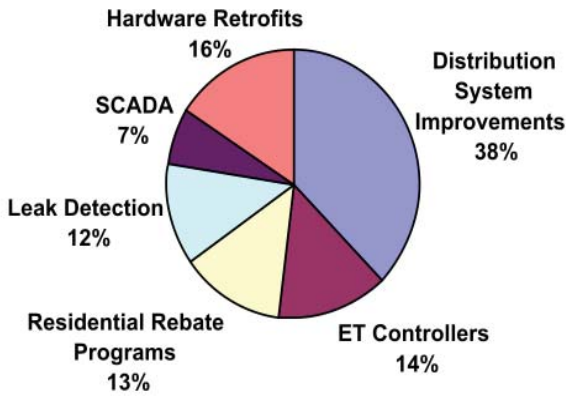


Figure 3. Percent of Money Awarded for 2009 CALFED Grants. 16 grants totaling \$5.5 million were awarded to MP Region water purveyors throughout the State of California. Federal awards ranged from \$79,000 to \$1 million. The projects’ potential acre feet of water conserved or better managed is 22,524.



Table 4: CALFED Water Use Efficiency Projects				
Beneficiary	ac/ft conserved or better managed per year	Federal Funds	Cost Share Funds	Total Project Cost
City of Corona	599	\$ 125,000	\$ 125,000	\$ 250,000
City of Santa Maria	264	\$ 600,000	\$ 800,000	\$ 1,400,000
Contra Costa Water District	100	\$ 310,000	\$ 447,000	\$ 757,000
East Bay MUD	103	\$ 270,000	\$ 270,690	\$ 540,690
Las Virgenes MWD	273	\$ 79,722	\$ 80,196	\$ 159,918
Long Beach Water Dept	75	\$ 88,000	\$ 88,000	\$ 176,000
Long Beach Water Dept	15	\$ 85,191	\$ 85,192	\$ 170,383
Merced Irrigation District	5,600	\$ 1,000,000	\$ 1,487,000	\$ 2,487,000
MWD of Orange County	398	\$ 371,650	\$ 887,910	\$ 1,259,560
MWD of Orange County	282	\$ 415,925	\$ 1,113,162	\$ 1,529,087
Rancho California Water District	300	\$ 260,440	\$ 294,040	\$ 554,480
Reclamation District 108	13,400	\$ 560,000	\$ 560,000	\$ 1,120,000
Reclamation District 2035	273	\$ 404,154	\$ 404,154	\$ 808,308
Regional Water Authority	47	\$ 294,184	\$ 370,948	\$ 665,132
San Luis Water District	780	\$ 554,665	\$ 554,665	\$ 1,109,330
Santa Barbara Co. Water Agency	16	\$ 165,200	\$ 195,950	\$ 361,150
Total	22,525	\$ 5,584,131	\$ 7,763,907	\$13,348,038

Since the inception of the CALFED WUE Grant Program in 2006, Reclamation has awarded 47 grants. With local cost-share contributions, Reclamation’s CALFED WUE Grant Program has resulted in over \$29.6 million being invested into water use efficiency projects statewide.

Challenge Grants

Reclamation presented The Water Conservation Initiative in 2009 as part of the strategic plan for implementing the Secure Water Act. The Secure Water Act authorized Reclamation to establish a climate change adaptation program that includes the facilitation of basin-wide water management improvements. The Water Conservation Initiative will develop incentives for the implementation of best management practices for water conservation. The Water Conservation Initiative also includes Challenge Grants (formerly Water 2025 and Water for America Challenge Grants) that focus on the following:

- 1. Water use efficiency projects that produce “real water savings,”
- 2. Water markets and water banks,
- 3. Improving water management by increasing the use of renewable energy and operation flexibility,
- 4. Addresses endangered species or other environmental concerns,
- 5. Water treatment pilot or demonstration projects to create new water supplies from brackish, saltwater, or otherwise unusable waters,
- 6. Planning or research activities designed to conserve or increase the efficiency of water use and the development of climate analysis tools.

Although Reclamation unveiled the Water Conservation Initiative in 2009, Challenge Grants were initiated in 2004 as part of the Water 2025 Initiative; the first Reclamation-wide program that focused attention on the complex water issues of the West by providing a forum for public discussion so that decisions could be made in advance of a water supply crises. Under the Water Conservation Initiative, Reclamation funded two types of water conservation grants in 2009: Water Marketing and Efficiency Grants and System Optimization Reviews.

Water Marketing and Efficiency Grants

Water Marketing and Efficiency Challenge Grants focused on modernizing aging water delivery infrastructure, water banking/marketing, and improving water use efficiency and conservation. Since 2004, the Challenge Grant program has funded 167 projects, Reclamation-wide, that when coupled with local cost-shares, represent approximately \$60 million in water system and water management improvement across the West. These projects create new water banks, promote the use of advanced technology to improve water management and increase collaboration among Federal, State, tribal, and local organizations.

Challenge grants are competed Reclamation-wide, and are typically capped at \$300,000. In 2009, the MP Region of Reclamation received 10 of the 23 grants awarded. MP Region projects included groundwater banking, new construction, and canal lining (Figure 4).

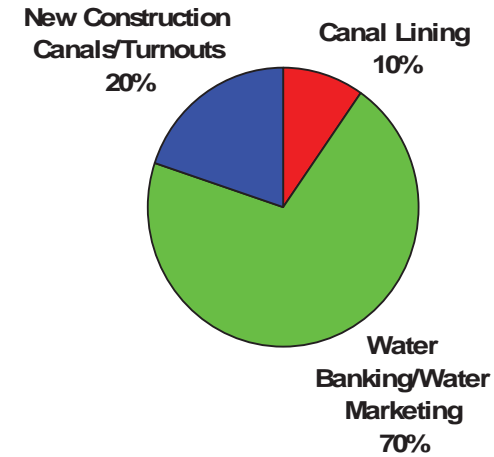


Figure 4. Percent of Money Awarded for 2009 Challenge Grants. Nine grants totaling \$2.6 million were awarded to MP Region water purveyors through the Challenge Grant Program. The projects’ potential acre feet of water conserved or better managed is 57,357.

Table 5: CHALLENGE GRANTS - Water Use Efficiency				
Beneficiary	ac/ft conserved or better managed per year	Federal Funds	Cost Share Funds	Total Project Cost
Arvin-Edison Water Storage District	800	\$ 300,000	\$ 578,800	\$ 878,800
Buena Vista Storage District	9,000	\$ 300,000	\$ 3,800,000	\$ 4,155,776
Delano-Earlimart Irrigation District	3,180	\$ 300,000	\$ 787,200	\$ 1,014,100
Fresno Irrigation District	1,500	\$ 300,000	\$ 1,300,195	\$ 1,600,195
Lower Tule River Irrigation District	16,210	\$ 300,000	\$ 306,000	\$ 606,000
Madera Irrigation District	20,367	\$ 299,715	\$ 811,101	\$ 1,110,816
Shafter-Wasco Irrigation District	2,400	\$ 300,000	\$ 350,400	\$ 650,400
Solano Irrigation District	1,500	\$ 295,200	\$ 1,198,800	\$ 1,495,500
Tulare Irrigation District	2,400	\$ 300,000	\$ 760,000	\$ 1,060,000
Total	57,357	\$ 2,694,915	\$ 9,892,496	\$12,571,587



System Optimization Reviews (SOR):

SOR grants were created to provide financial assistance to establish a broad look at system-wide efficiency focused on improving efficiency and operations of a water delivery system, water district, or water basin. In 2009, Reclamation awarded five SORs and the MP Region received three of those awards. These SOR’s could link to future Challenge Grant Projects.

Table 6: CHALLENGE GRANTS - System Optimization Review			
Beneficiary	Federal Funds	Cost Share Funds	Total Project Cost
City of Folsom	\$ 286,833	\$ 1,673,813	\$ 1,960,646
East Bay MUD	\$ 300,000	\$ 300,048	\$ 600,048
Tulare Irrigation District	\$ 300,000	\$ 355,150	\$ 655,150
Total	\$886,833	\$2,329,011	\$ 3,215,844

ARRA Water Marketing and Efficiency Grants:

The \$40 million investment in the water conservation, efficiency, and water marketing projects was part of the \$1 billion investment of ARRA funding provided by the Department of the Interior for water projects across the West. In 2009, Reclamation awarded five Challenge Grant projects in the MP Region for \$18 million – almost half of the \$40 million available for Challenge Grants across the West under the American Recovery and Reinvestment Act of 2009. Projects included residential water meter installation, water banking and marketing projects, and construction of new water conveyance and recovery systems.

Table 7: Challenge Grants: ARRA			
Beneficiary	Federal Funds	Cost Share Funds	Total Project Cost
Delano-Earlimart Irrigation District	\$962,670	\$1,002,700	\$1,965,370
Lower Tule River Irrigation District	\$2,143,533	\$2,269,859	\$4,413,392
North Kern Water Storage District	\$5,000,000	\$8,867,515	\$13,867,515
Sacramento Suburban Water District	\$5,000,000	\$7,500,000	\$12,500,000
Semitropic-Rosamond Water Bank Authority	\$5,000,000	\$5,850,000	\$10,850,000
Total	\$18,106,203	\$25,490,074	\$43,596,277

Technical Transfer Grant Program

The Technical Transfer Grant Program, unique to the MP Region, provides state of the art water conservation technology, technical assistance and expert modernization advice to agricultural water suppliers which receive water from the Central Valley Project. Grants are offered on a competitive basis to institutions of higher education. Grants through this program have supported The Irrigation Training and Research Center (ITRC) at California Polytechnic State University, San Luis Obispo, and the Agricultural Teaching and Research Center at Chico State University (ATRC).

Reclamation’s financial assistance to ITRC and ATRC has assisted with the building, development, and staffing of demonstration and training facilities to support California water users in their efforts to implement and learn about conservation measures.

One of the goals of developing facilities and expertise is to support the adoption of new technologies in water measurement and control that will lead to water conservation. By providing a facility, training opportunities, and technical support, adoption of new water conservation technologies is accelerated. The facilities at the ATRC and ITRC serve as demonstration sites where various types of Supervisory Control and Data Acquisition (SCADA), water measurement technologies, as well as other new technologies are demonstrated and taught.

Table 8: Technical Transfer Grants				
Planning Management Services	Grants Funded	Federal Funds	Cost Share Funds	Total Project Cost
2007	1	\$499,000	0	\$499,000
2008	2	\$350,718	0	\$350,718
2009	1	\$298,000	\$5,000	\$303,000
Total	4	\$1,147,718	\$500,000	\$1,152,718



Water Conservation Management Plans and Best Management Practices

Section 3405 (e) of the CVPIA requires that the Secretary of the Interior establish criteria to evaluate CVP Plans by April 30, 1993, and that the Criteria be reviewed at least every 3 years and revised, if necessary. These Criteria were intended to evaluate water conservation plans required under the 1982 Reclamation Reform Act. Reclamation drafted and issued the initial “Criteria for Evaluating Water Conservation Plans” in April 1993.

Standard Criteria

The purpose of the Criteria is to help facilitate the preparation of water conservation plans (Plans) that promote the highest level of water-use efficiency. The Criteria affords the contractors the opportunity to analyze their operations and develop reasonably achievable goals through the use of best available, cost-effective technology and best management practices (BMPs). The Plans examine various aspects of the district or utility operations including a description of the district/utility, an inventory of the water resources available, and BMPs for both agricultural and urban districts.

The Criteria was revised in 1996, 1999, 2002, 2005 and 2008. Water Management Planners are available in hard copy, CD format, and online to assist and guide water users in complying with the Criteria.

During the 2008 revision process, the agricultural BMPs were modified to reflect the need for district outflow measurement and the integration of GIS to their management plan. There are 14 BMPs for municipal and industrial water districts that were developed by the California Urban Water Conservation Council (CUWCC) in 1991. These are currently being revised to provide clear and concise language and direction for the districts. Reclamation is fully engaged in the revision process and anticipates continued adoption and use of CUWCC BMPs after revision.

Assistance and Plan Approval

Reclamation Water Conservation staff at both the Area and Regional Offices are available to assist contractors with the development of their Plans. The process for Plan approval begins with contractor’s submitting their Plan for evaluation to their Area Office Water Conservation Specialist. Once Reclamation has reviewed and approved/deemed a plan adequate and the contractor’s Board has adopted the Plan by resolution, that contractor is listed in the “Notice of Draft Decision” (Notice) in the Federal Register. The Notice is intended to solicit public comments. If no comments are received that require Plan modification, that Plan is then deemed adequate. The Plan information is entered in the database and Reclamation staff track the implementation of the Plan through annual updates submitted by contractors. The annual updates help to insure that those plans submitted by agricultural and urban water contractors are being effectively implemented.

Although the CVPIA is a public law, compliance is required contractually under the terms of most contracts between water users and Reclamation. Section 26, of most contracts, deals with Water Conservation. The following is an example, commonly included as section 26:

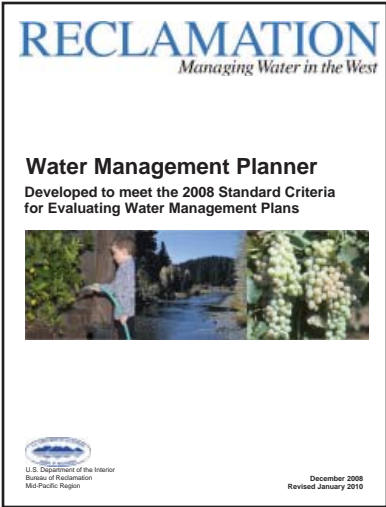
“26. (a) *Prior to the delivery of water provided from or conveyed through Federally constructed or Federally financed facilities pursuant to this Contract, the Contractor shall be implementing an effective water conservation and efficiency program based on the Contractor’s water conservation plan that has been determined by the Contracting Officer to meet the conservation and efficiency criteria for evaluating water conservation plans established under Federal law. The water conservation and efficiency program shall contain definite water conservation objectives, appropriate economically feasible water conservation measures, and time schedules for meeting those objectives. Continued Project Water delivery pursuant to this Contract shall be contingent upon the Contractor’s continued implementation of such water conservation program. In the event the Contractor’s water conservation plan or any revised water conservation plan completed pursuant to subdivision (d) of Article 26 of this Contract have not yet been determined by the Contracting Officer to meet such criteria, due to circumstances which the Contracting Officer determines are beyond the control of the Contractor, water deliveries shall be made under this Contract so long as the Contractor diligently works with the Contracting Officer to obtain such determination at the earliest practicable date, and thereafter the Contractor immediately begins implementing its water conservation and efficiency program in accordance with the time schedules therein.*

(b) *Should the amount of M&I Water delivered pursuant to subdivision (a) of Article 3 of this Contract equal or exceed 2,000 acre-feet per Year, the Contractor shall implement the Best Management Practices identified by the time frames issues by the California Urban Water Conservation Council for such M&I Water unless any such practice is determined by the Contracting Officer to be inappropriate for the Contractor.*

(c) *The Contractor shall submit to the Contracting Officer a report on the status of its implementation of the water conservation plan on the reporting dates specified in the then existing conservation and efficiency criteria established under Federal Law.*

(d) *At five year intervals, the Contractor shall revise its water conservation plan to reflect the then current conservation and efficiency criteria for evaluating water conservation plans established under Federal law and submit such revised water management plan to the Contracting Officer for review and evaluation. The Contracting Officer will then determine if the water conservation plan meets Reclamations’s then current conservation and efficiency criteria for evaluating water conservation plans established under Federal law.*

(e) *If the Contractor is engaged in direct ground-water recharge, such activity shall be described in the Contractor’s water conservation plan.”*



Refuge Water Supply Contracts, Article 17

Article 17 of the Refuge Water Supply Contracts addresses water conservation. It requires an adequate Refuge Plan to be submitted by each refuge to Reclamation prior to activities such as pooling and rescheduling of water supplies. The Criteria for Developing Refuge Water Management Plans (Refuge Criteria) provides a common methodology or standard for efficient water user by Federal Wildlife Refuges, State wildlife management areas and resource conservation districts that receive water under the provisions of the CVPIA. The first Refuge Criteria was established in 2004.



Currently, 15 refuges are required to prepare a Refuge Plan. However, Pixley and Sutter National Wildlife Refuges do not currently receive contract water.

- San Joaquin Valley Refuges
Kern National Wildlife Refuge
Merced National Wildlife Refuge
Pixley National Wildlife Refuge
San Luis National Wildlife Refuge
Los Banos Wildlife Area
Mendota Wildlife Area
North Grasslands Wildlife Area,
Salt Slough Unit
North Grasslands Wildlife Area,
China Island Unit
Volta Wildlife Area
Grassland Resource Conservation District

- Sacramento Valley Refuges
Colusa National Wildlife Refuge
Delevan National Wildlife Refuge
Sacramento National Wildlife Refuge
Sutter National Wildlife Refuge
Gray Lodge Wildlife Area



The Refuge Plan content is similar to those of agricultural districts but was written to be flexible enough to accommodate the management requirements for wildlife habitat. The Refuge Plans examine various aspects of Refuge operations including a description of the Refuge, an inventory of the available water resources, and BMPs. Plans also follow the same submittal procedures as the agricultural and urban districts and must be revised every five years. Additionally, Refuges report progress on their BMPs annually directly to Reclamation.



Gray Lodge Wildlife Area Taken December 2, 2006

Integrating Drought Response

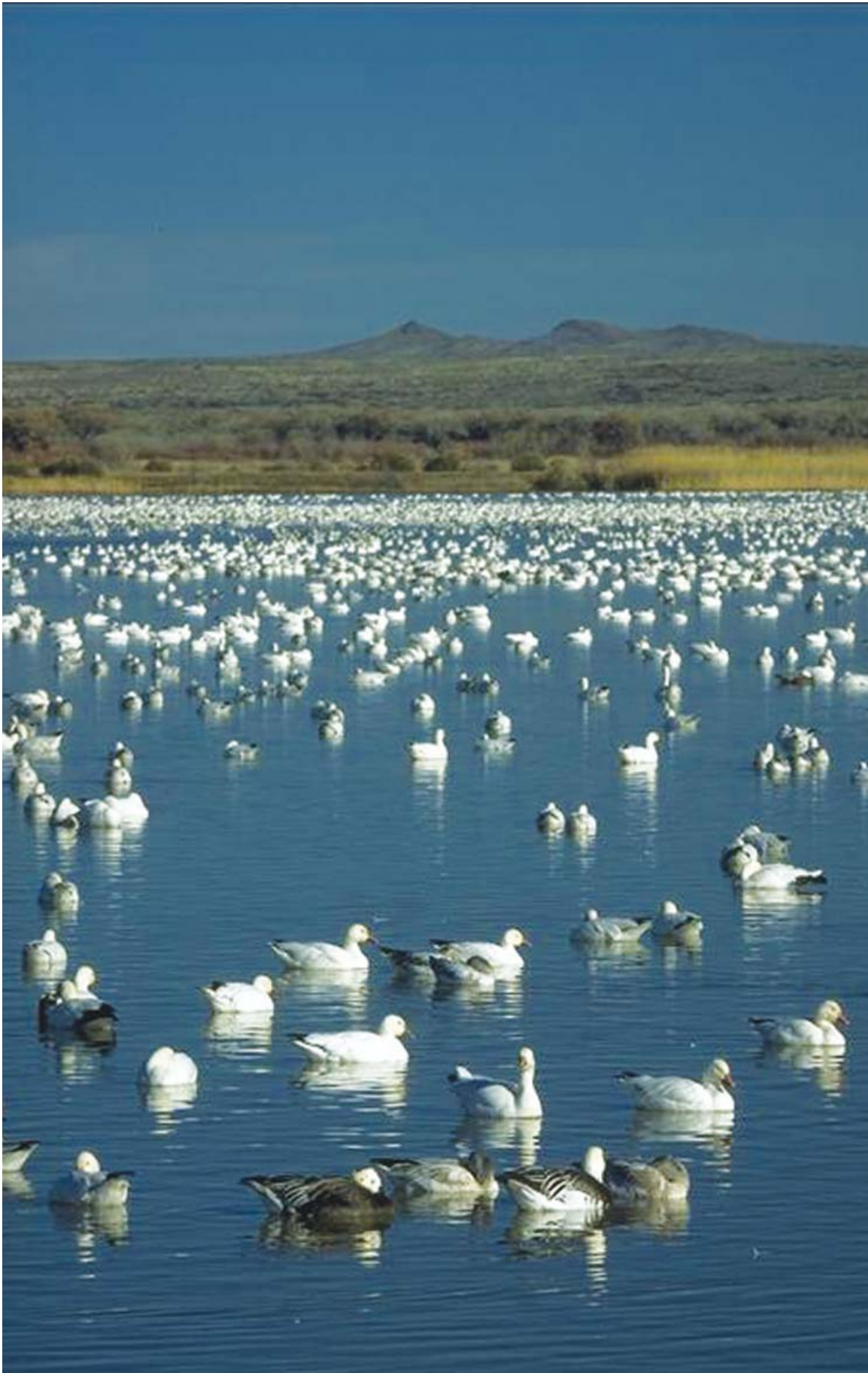
Most of California enjoys a Mediterranean-type climate with cool, wet winters and hot, dry summers. Most of the State’s average annual precipitation of 24 inches falls between November and March. Floods and droughts occur often, sometimes within the same year. Therefore, planning for water storage is essential. Good planning and preparation can help agencies maintain reliable supplies and reduce the impacts of supply interruption.

California is facing one of the worst drought situations in modern state history. This drought is the result of three consecutive years of below-average precipitation in 2007, 2008, and 2009. In July 2008 and again in March 2009, Governor Schwarzenegger requested federal drought assistance from the Commissioner pursuant to Title I of the Reclamation States Emergency Drought Relief Act of 1991 (Drought Relief Act). Within a week, the Commissioner concurred with the Governor’s drought declaration and determined that federal financial and technical assistance is merited in accordance the Drought Relief Act.

The Drought Relief Act has two basic directives to provide assistance during droughts:

Title I - Provides assistance after a drought emergency has been declared by the Governor of the affected state or the governing body of the affected tribe. Projects can include construction, management and conservation activities to minimize damages from drought conditions. Any construction activity is limited to temporary facilities, except for wells. Examples of previously funded projects under Title I include deepening of existing wells, drilling of new wells to provide water for crops, livestock and drinking water, and installation of temporary weirs to augment the flow of surface water for irrigation purposes.

Title II - Provides assistance for the administration and implementation of drought contingency planning. Drought contingency planning includes studies to identify opportunities to conserve, augment, and make more



efficient use of water supplies. Examples of projects funded under Title II include groundwater studies, watershed modeling, and installation of stream monitoring equipment.

Reclamation’s drought related activities in 2009 that were directly related to the Drought Relief Act were as follows:

- The Drought Relief Act was utilized in 2008/2009 to allow Reclamation to participate in the California State Drought Water Bank (Bank). The Bank was created to help facilitate transactions between buyers in their purchase of water from willing sellers to areas of critical need. 74,000 acre-feet of water was made available for transfer during 2008/2009.
- Reclamation continued to work closely with State agencies to use the flexibility of the Central Valley Project and the State Water Project (SWP) by means of a Coordinated Operations Agreement to accommodate water transfers and exchanges among water districts to mitigate impacts from this critically dry year.
- Reclamation continues to make the review and approval of all water transfers and return of banked groundwater proposals a priority, including the cross-basin transfers that do not adversely impact the CVP and are consistent with California law.
- Reclamation provided financial assistance to the Round Valley Indian Tribes for emergency riparian watering needs and the development of a drought management plan.
- The MP Region utilized the Drought Relief Act as the authority to sell Orland Project water to a Central Valley Project contractor.

For more information, please visit: <http://www.usbr.gov/drought/>



Folsom Lake Brown’s Marina full



Same area during drought



Bridge Bay Shasta Lake

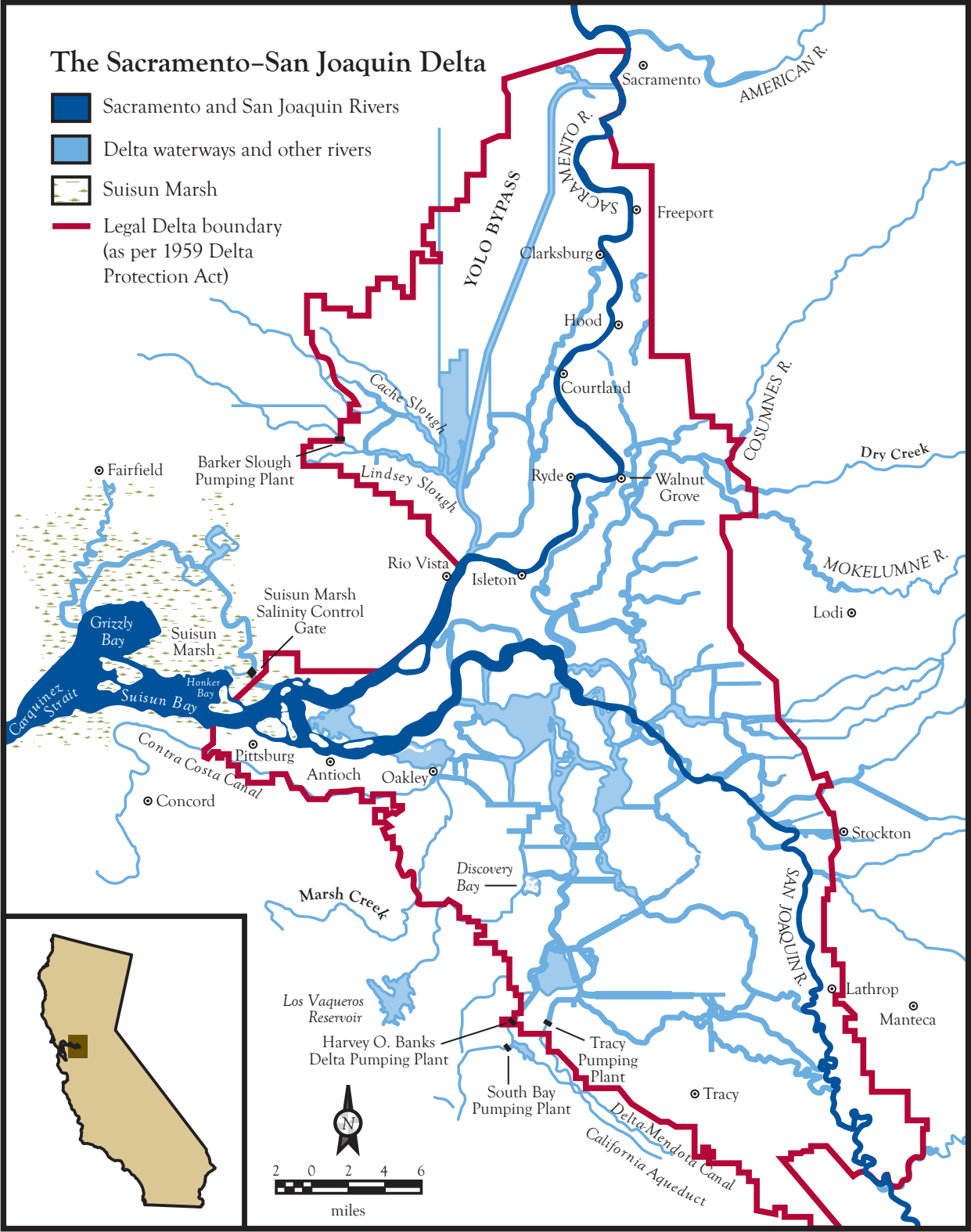


Figure 1.1—The Sacramento—San Joaquin Delta



Public Outreach

Public education and outreach are key elements in improving the management of water resources to more effectively meet present and future needs. The MP Regional staff promotes water conservation through newsletters, display booths at conferences, and maintaining the WaterShare website.

Conservation Connection

Conservation Connection is our newsletter which highlights water conservation projects being implemented by Reclamation water contractors, emerging water conservation technology, calendar of events, grant opportunities, and other water related issues. If you would like to receive the newsletter and are not currently on the mailing list, please contact Laurie Sharp at 916-978-5232.

Conference Participation

Water Conservation staff attends numerous conferences and expositions to spread the word out about our programs and grant opportunities. In 2009, we set up our booth at the MP Region’s Water User’s Conference. The Water Conservation Office will continue to participate in water management events throughout the Region.



Water Users Conference Reno, Water Conservation Team Booth



Water Conservation Staff, Bryce White and Kevin Clancy

WaterShare Website

The WaterShare website at <http://www.usbr.gov/mp/watershare/index.html> is another tool to inform water users and others about Regional activities and current water use efficiency news. The website provides contact information for the Water Conservation staff and advertises grant opportunities, water management plans, and has links to the current Criteria, and other useful water websites. There are fun activities for school children to engage them in becoming wise water users under our WaterLearn site.



The American River Water Education Center

The American River Water Education Center (ARWEC) at Folsom Dam has welcomed visitors since 1999. ARWEC has reached over 155,000 visitors with the message of resource management and conservation. Today, ARWEC serves as Central California Area Office’s water conservation program office. ARWEC is staffed with Reclamation employees, part-time contracted personnel, and an active volunteer group.

ARWEC related activities include guided tours of the visitor center and Folsom Lake area, curriculum driven schoolhouse programs, and self-guided garden walks. A demonstration garden features low water use and drought tolerant plants and water conservation irrigation systems and apparatuses that can be used by local homeowners and contract landscapers to conserve water. In addition, there is a covered amphitheater available to schedule local events, displays about power delivery and solar power, and a picnic area. ARWEC attracts visitors from the nearby American River Parkway. Staff and volunteers also participate in outreach programs to schools, retirement homes, clubs and organizations focusing on Folsom Dam and/or water related topics. ARWEC hosts special events such as Get W.E.T. (Water Education for Teachers) and participates in other events such as the Salmon Festival, Creek Week, and the Fair Oaks Harvest Festival.

ARWEC supports Reclamation’s vision through outreach in the community, innovative exhibits, compelling programs and participation with other groups and agencies. ARWEC supports Reclamation’s mission by providing a public facility that presents information about how an individual can protect water, energy and other resources by using simple conservation techniques and offers an interesting place to learn the importance of efficient water and power use.



ARWEC, Folsom, CA



Nancy Johnson, in her 10th year of volunteer work at ARWEC.



Regional Directors Award

To encourage outstanding leadership and program innovation within the water conservation community, the Water Conservation Team selects recipients for the Annual Regional Directors Award. In 2009, the Regional Directors Award was presented to East Bay Municipal Utilities District.

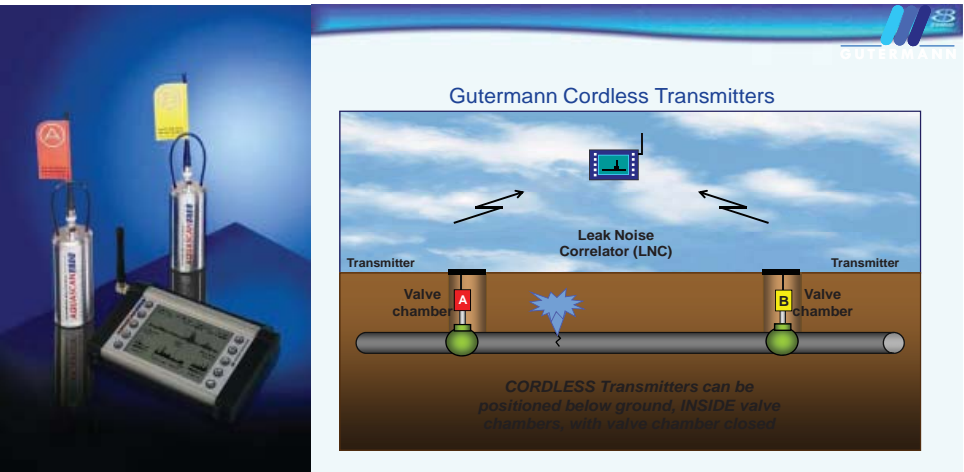
East Bay Municipal Utilities District – 2009 Regional Directors Award

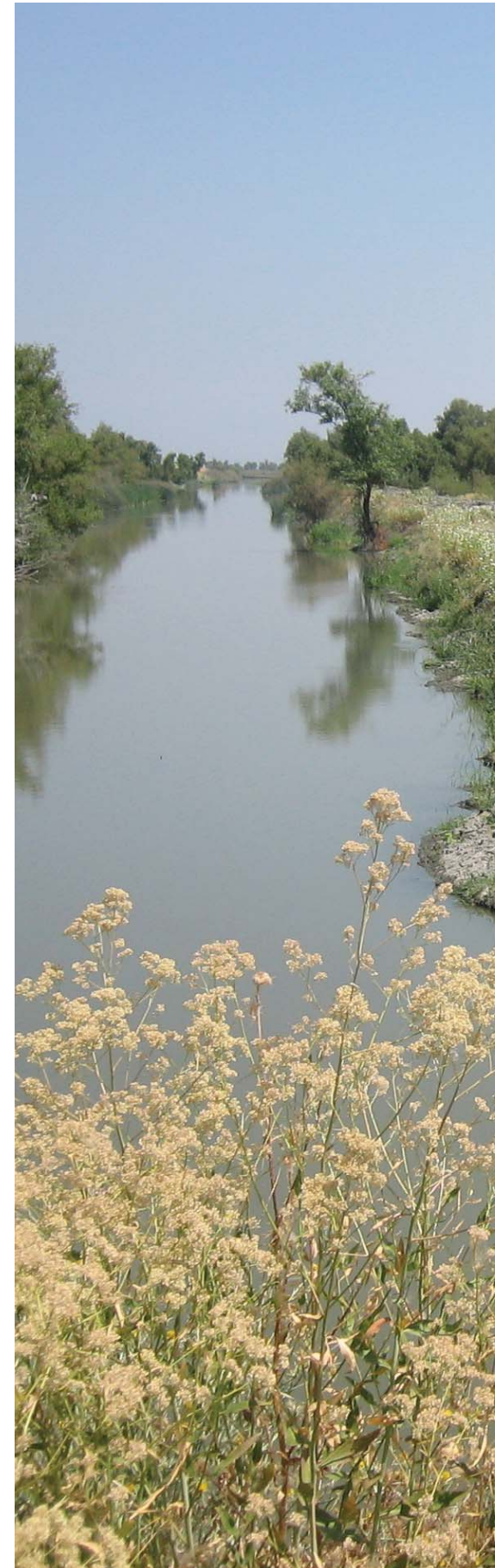
East Bay Municipal Utilities District actively applies new, innovative technologies to achieve stringent water conservation goals established by the District. Several recent projects, which won partial funding through Reclamation grant programs, demonstrate their industry-wide leadership in water conservation and water use efficiency. Recent water conservation projects include the Automatic Meter Reading project, the Acoustic Leak Detection project, and the Advanced Metering Implementation Plan.

The Automatic Meter Reading and Acoustic Leak Detection projects have been partially funded under Reclamation’s CALFED Water Use Efficiency Grant Program. The meter reading project includes installation of customer meters that provide minute-by-minute water use information to customers through the internet and is partnered with software tools to analyze the data. Customers will receive email alerts when unusually high water use occurs or when leaks may be likely.

The Acoustic Leak Detection program was created by the Utilities District using portable listening devices. This extensive project involved the installation of fixed network acoustic leak detection technology “loggers”. These “loggers” detect leaks on pipelines and provide early detection of leaks before they become main failures, thus avoiding significant water losses and additional damages.

The Advanced Metering Implementation Plan was partially funded under the Challenge Grant Program. This project will optimize landscape irrigation efficiency and indoor water use. The project combines evapotranspiration (ET) irrigation controller technology and Advanced Metering Infrastructure systems (AMI) to optimize landscape irrigation efficiency. The project includes direct installation of 400 self-adjusting ET controllers at high-water use, (>500 gallons per day of peak irrigation usage) single-family residences and some commercial landscape accounts. AMI can provide daily and hourly water consumption readouts.





Area Offices

Klamath Basin Area Office
6600 Washburn Way
Klamath Falls OR 97603-9365

As a part of its Water Conservation Program, the Klamath Basin Area Office (KBAO), located in Klamath Falls, Oregon has continued the WCFSP in 2009 by purchasing high-density polyethylene (HDPE) pipe and furnishing the pipe to irrigation districts that are currently operating Klamath Project features and facilities. The districts were selected via a Funding Opportunity Announcement (FOA) competitive grant process and are in turn installing or have already installed the pipe. An additional part of the KBAO's WCFSP was to provide funding to irrigation districts that were selected via a FOA competitive grant process for flow measurement and/or control structure installation. The pipe is being installed into existing canals and ditches with the intention of minimizing water flow conveyance losses through evaporation, obstruction (weeds, trees, etc), and chiefly, seepage where canals and ditches traverse rocky and sandy soil units. The flow measurement and control structures are being installed directly into existing canals or mounted on existing pipes that provide for water flow service to the irrigation district.

Districts served by the KBAO are required to complete Water Management Plans under RRA. KBAO is also providing technical assistance to districts where appropriate.

KBAO continues to work with irrigation districts, Oregon Water Resources Department, and others to create public education venues for water related resources.

Cecil Lesley - Chief, Water and Lands
clesley@usbr.gov
 541-880-2546

Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630-1799

The Central California Area Office (CCAO) is headquartered at Folsom Dam, 23 miles east of California’s capital city of Sacramento, with resource offices located at New Melones Dam and Lake Berryessa. The Area Office manages water and land resources in 12 counties, including facilities of the CVP - American River and East Side Divisions, and facilities of the Solano Project.

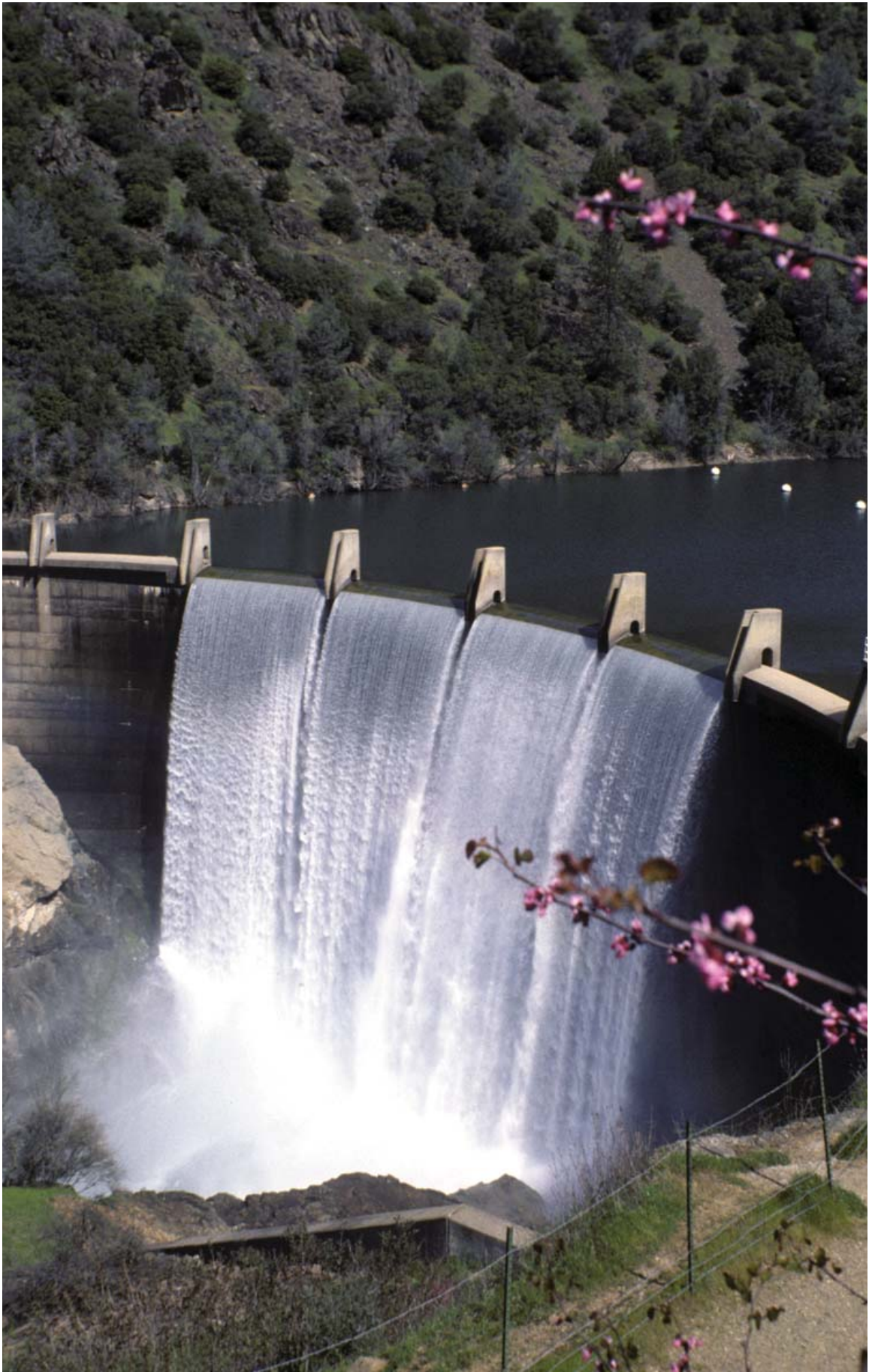
Folsom Dam and reservoir is a major water management facility located within a large metropolitan area. With a capacity of 976,000 acre-feet, the Folsom reservoir catches runoff from the extensive American River watershed and is the key flood control structure protecting the Sacramento metropolitan area.

CCAO’s Water Conservation Program emphasizes urban water conservation and technical and financial assistance towards the implementation of Best Management Practices.

Pete Vonich - Natural Resource Specialist
Grants
pvonich@usbr.gov
916-989-7265

Lucille Billingsley - Supervisory Repayment Specialist
Plans and Annual Updates
lbillingsley@usbr.gov
916-989-7121

Pauline Calvillo - Water Conservation Specialist
ARWEC
pcalvillo@usbr.gov
916-989-7275



Lahontan Basin Area Office
705 North Plaza Street, Room 320
Carson City, Nevada 89701-4015

Lahontan Basin Area Office’s (LBAO) water conservation efforts are primarily focused on the water districts of the Truckee and Carson Rivers in Nevada and California that benefit from Federal water projects. The LBAO and its Fallon Field Office (FFO) provide technical assistance and oversight for the water conservation plans and water conservation activities of irrigation districts and other contractors on the Newlands, Washoe, Humboldt, and Truckee River Storage Projects. The LBAO also partners with municipalities and local governments within those Projects for water conservation activities. WCFSP activities have ranged from drainage studies to canal automation, with a focus on maximizing water distribution efficiency and minimizing the amount of water diversion from the Truckee River. Improved water measurement has been a key element to much of the work done with the Newlands Project, which is LBAO’s largest contractually transferred irrigation Project. Water education is also a major focus in the Lahontan Basin. Partnerships have been established with the Natural Resources Conservation Service to provide information about on-farm management practices to water users.

Nevada’s State Water Plan
The Nevada Division of Water Planning in the Department of Conservation and Natural Resources has developed a State Water Plan. The program covers activities ranging from water conservation to water education. In addition, the State of Nevada has adopted statutes requiring any entity that supplies water for municipal, industrial, or domestic purposes to have a state approved water conservation plan. The plans must encourage water conservation in the entities’ service area, and provide incentives for water conservation activities.



Bryce White
Special Projects
bwhite@usbr.gov
775-884-8392

Northern California Area Office
16349 Shasta Dam Boulevard
Shasta Lake, CA 96019

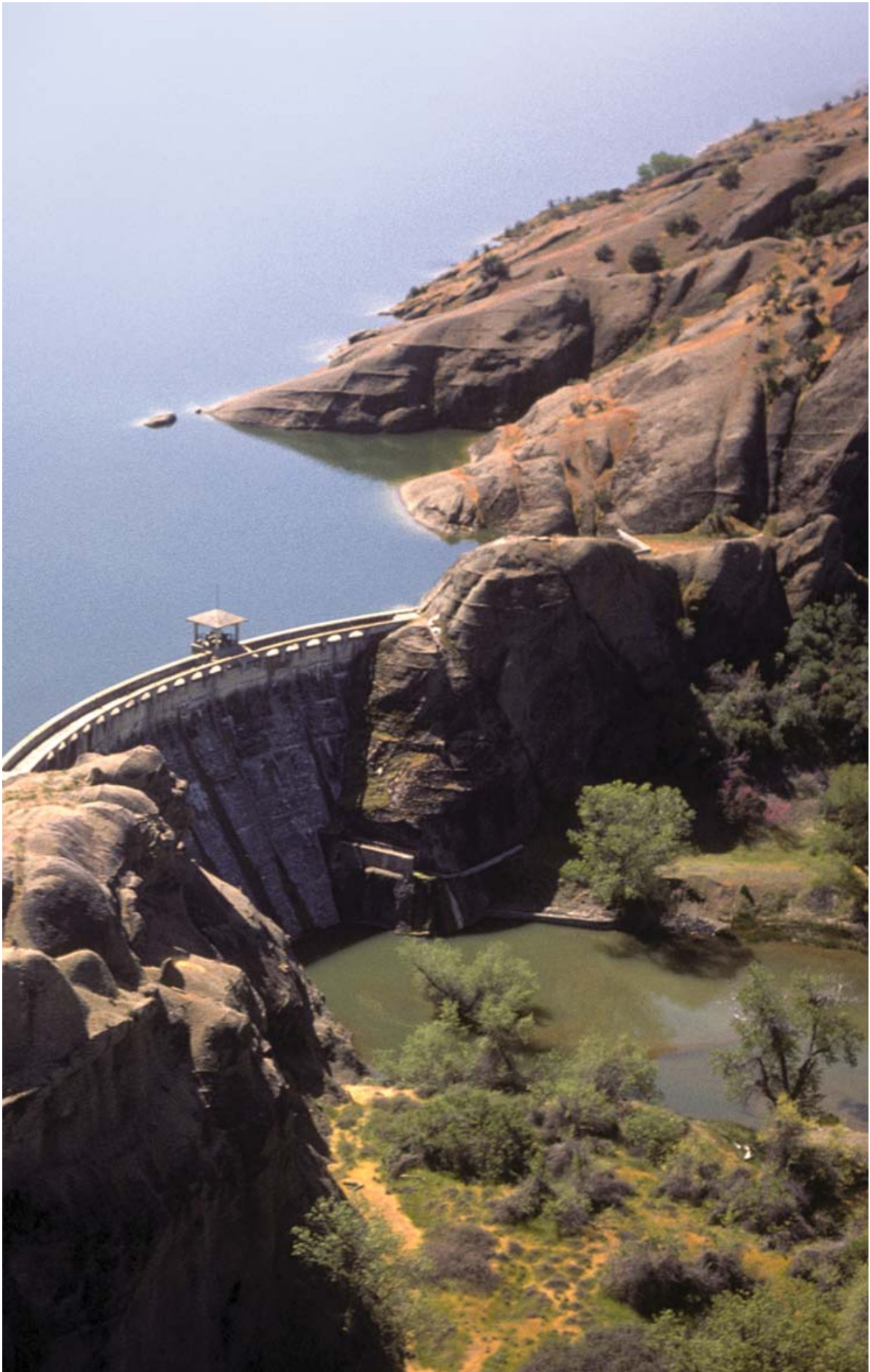
The Northern California Area Office (NCAO) has targeted the monitoring and automation of irrigation delivery systems and the modernization of districts for improved delivery efficiency, as a high priority in the northern area of the Sacramento Valley. Through collaborative water conservation planning, combined with the Water Conservation Field Service Program, Water for America Challenge grants, and CALFED grant funding, the districts have implemented aggressive modernization programs. Successful implementation of state-of-the-art monitoring, automation, canal level management, and measurement have provided significant results in water and energy savings.

Partnerships with the ITRC and ATRC have provided technical assistance to agricultural water districts to explore technologies that improve the water diversion and canal delivery systems found along the Sacramento River and the Tehama and Colusa Canals.

Reclamation District No. 108 (RD 108) was recently awarded a CALFED grant for the District’s Recycle and Distribution Systems Improvements Project, which will increase the amount of recycled water that is pumped back into the district’s distribution system. It will also increase the area served by recycled water, improve the flexibility and management of recycled water, and reduce distribution system spills. The District is planning on installing salvaged pumps and electric motors from the recent removal of pumping plants in the Sacramento River. RD 108 will convert one of the recycled pumping plants from diesel to electric, and install one Variable Frequency Drive at each of two recycle pumping plants to improve management of recycled water. The project also includes increasing the irrigated area served by recycled water by raising the banks of a distribution canal and adding a check structure. The project is estimated to save 17,100 ac/ft of water per year.



Jake Berens, Water Conservation Repayments Specialist
jberens@usbr.gov
530-934-1359



Northern California Area Office
Internship with Reclamation

During my summer internship with the Bureau of Reclamation I was part of the Water Conservation Team. One of our main goals was to administer and maintain financial assistance agreements awarded to various irrigation districts throughout California. I observed the panel discussing and selecting which applicants would receive funding. During that time with Reclamation, we awarded \$10 million in grant funds.

I now work in the Northern California Area Office, Willows, and I am in their Water and Lands Division. I am still in charge of two grants that have carried over from Sacramento. Recently I was put in charge of the crop reports from various irrigators and districts.

My internship has been one of the best opportunities I have ever experienced. I have had the chance to work with some of the best people, and gain vast knowledge of water issues affecting the Western United States. I have also earned the opportunity for a career with Reclamation upon graduation from CSU, Chico.



Elizabeth Gregory - Student Intern
egregory@usbr.gov
530-934-1327

South-Central California Area Office
1243 N Street
Fresno, CA 93721-1813

The service area assisted by the South-Central California Area Office (SCCAO) has the most irrigated farmland of any area office in Reclamation with over 2.5 million irrigated acres. In addition, the area serves several large urban water districts and 10 wildlife refuges.

SCCAO has a diverse customer base and extensive water management challenges, resulting in a need for a multi-faceted Water Conservation Program. Planning assistance remains a priority in the SCCAO where CVPIA water management criteria applies. Technical and financial assistance is made available to these districts to implement Plan activities.

Partnerships are a central feature of the SCCAO program. Cooperative agreements with ITRC, California Water Institute, and Center for Irrigation Technology at Fresno State make it possible to provide training and technical assistance to districts.

SCCAO also administers Reclamation grant programs to fund water conservation projects designed to promote new and innovated technologies, improve water management at the farm and District level, and to assist in projects that improve water supplies and water banking opportunities throughout the SCCAO service area. In 2009, SCCAO received 23 conservation grants and currently administers over 85 grants.



Danielle Oliviera (L) - Administrative Support
559-487-5295
doliviera@usbr.gov

Dave Woolley (C) - Water Conservation Specialist
dwoolley@usbr.gov
559-487-5049

Melissa Crandell (R) - GIS/Water Conservation Specialist
mcrandell@usbr.gov
559-487-5180



Mid-Pacific Regional Staff

Sheri Looper is the Water Conservation Program Team Leader. Sheri began with Reclamation in September of 2005 through the Federal Career Intern Program (FCIP). Upon finishing the 2-year FCIP, she became the Water Conservation Team Lead where she provides technical direction and has implementation responsibility for the program’s mission and goals. Sheri has her Bachelor of Science in Agriculture from California State University, Chico and a Master’s Degree from the University of California, Davis. Before Sheri came to Reclamation, she was a biomedical researcher/project manager, authored several research papers, and is the co-inventor of a patented freeze-dried platelet product for use in wound healing. Contact Sheri Looper at 916-978-5219, slooper@usbr.gov



Laurie Sharp is the Water Conservation Support Specialist. She began her career with Reclamation in 1978, working in the Steno Section and Procurement. Laurie took a 10 year break from government service and lived in England, running her own business. When Laurie returned to the United States, she worked for the Postal Service as a carrier and then served as a supervisor for several years. She returned to Reclamation in 2001 and has worked in Water Rights and Contracts, Human Resources, as Division Secretary for Resources Management, and in Finance & Budget. In May 2006, Laurie deployed to Mississippi during the Hurricane Katrina Relief, serving on the Blue Roof Team. Laurie joined the Water Conservation Team in August 2006. Contact Laurie Sharp at 916-978-5232, lsharp@usbr.gov



Kevin Clancy is a Water Conservation Specialist who began with Reclamation in 2007. Kevin specializes in Drought and Water Conservation issues in the Sacramento Valley. Kevin graduated from Colorado State University (CSU) with a B.S. degree in Watershed Science. While at CSU, Kevin assisted in studies regarding fish migration in urban stream systems and invasive plant species along the Green and Yampa Rivers in Dinosaur National Monument. He also worked during the summers with the Forest Service conducting stream condition inventories and habitat assessments. Prior to graduating from CSU, Kevin did accounting and financial work for a resort development company located in the Aspen, Colorado Valley. Contact Kevin Clancy at 916-978-5223, kclancy@usbr.gov



Anna Sutton is a Water Conservation Specialist who joined Reclamation in 2008. Anna specializes in Urban Water Conservation issues and grant administration. She came to Reclamation from the Army Corps of Engineers where she worked for 6 years in the Wetland Regulatory Program in Salt Lake City and Sacramento. While with the Corps, she spent 6 months supervising reconstruction projects in Iraq. Anna received her B.S. in animal science and M.S. in resource management from Cal Poly, Pomona. For her thesis, she spent a summer sampling flora, fauna, and soils in the Mojave Desert for the Bureau of Land Management’s Off-Highway Vehicle Program. Prior to college, she served 5 years in the United States Marine Corps, stationed at Camp Pendleton. Contact Anna Sutton at 916-978-5215, asutton@usbr.gov

